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Addendum to the MyPyramid Equivalents Database 2.0

Kristin L. Koegel*, Kevin J. Kuczynski,
Patricia Britten

U.S. Department of Agriculture, Center for Nutrition Policy and Promotion, Alexandria, VA 22302, USA

Abstract

Background: The MyPyramid Equivalents Database (MPED) provides amounts of food groups and subgroups in foods consumed in nationwide food consumption surveys. The most recent MPED issued by the Agricultural Research Service (ARS) was Version 2.0, created for use with the National Health and Nutrition Examination Survey (NHANES) 2003-04. Several of the Center for Nutrition Policy and Promotion's (CNPP) projects require food group equivalents data for foods from more recent NHANES.

Objective: To provide a supplementary database of food group equivalents for more recent NHANES foods, for use in CNPP projects.

Description: Additional foods (n=820) reported in NHANES 2005-06 and 2007-08 were identified for inclusion in several CNPP projects, including the new online diet assessment tool, the SuperTracker. Cup and ounce equivalents were calculated for 750 foods by using the approach described in the documentation for the MPED 2.0. The USDA National Nutrient Database for Standard Reference, Release 23 (2010) was used for calculations. ARS provided equivalents data for 70 formulated foods. The Addendum to the MPED includes cup or ounce equivalents per 100 grams of food for each USDA food group and subgroup, grams of discretionary solid fats and oils, teaspoons of added sugars, alcoholic beverages, as well as whole fruit and fruit juice equivalents. The Addendum database and documentation are available on the CNPP web site at: <http://www.cnpp.usda.gov/OtherProjects.htm>.

Conclusion: The Addendum provides useful data for foods from more recent NHANES that are not in MPED 2.0. It will be available until the next equivalents database is released by ARS.

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1. Introduction

CNPP recently released the SuperTracker, a Web-based diet and activity assessment tool. With this interactive tool, users can track their food group intake, in addition to caloric and nutrient intake, calories from solid fats and added sugars intake, weight, and physical activity. Their intake is compared to nutrient and food group recommendations.

The food database for the SuperTracker is based on foods consumed in NHANES. Consumers using the SuperTracker expect to find foods and beverages they have consumed. Nutrient data for foods consumed up through NHANES 2007-08 are available for use. However, the most current food group

* Corresponding author: Tel.: 703-305-2157; fax: 703-305-3300.
E-mail address: kristin.koegel@cnpp.usda.gov

information available currently is Version 2.0 of the MPED [1], developed for use with NHANES 2003-04. For this project, additional new foods consumed by NHANES respondents from 2005 to 2008 were reviewed to determine those that would be most useful for the SuperTracker and other CNPP projects. CNPP nutritionists reviewed the complete list of new foods consumed by survey respondents to decide which might be consumed by SuperTracker users. For example, “Cereal bar with fruit filling, baby food” was not selected, because infants are not a target audience for the SuperTracker. In addition, some foods with the description “NS” (Not specified) were not selected, as the assumption was made that SuperTracker users would know what they had eaten. For example, it was decided not to include “Pizza, extra cheese, NS as to type of crust.” The supplementary database of equivalents data for selected foods was developed as a temporary Addendum to the MPED 2.0.

2. Food codes in Addendum

The 820 food codes selected for the Addendum were reported in Day One of NHANES 2005-06 and 2007-08 data cycles for individuals age 2 years and older (excluding breastfed children) who had complete recalls. [2, 3]

Cups and ounce equivalents were calculated by CNPP staff for 750 of the 820 foods by using the general approach described in the documentation for the MPED 2.0. The USDA National Nutrient Database for Standard Reference, Release 23 (2010) was used for calculations (e.g., for calculating equivalents for various soy milks, using calcium and fat content). [4] Examples of the 750 foods included in the Addendum and for which CNPP calculated equivalents, and the total number of foods from each food category in the Addendum, are listed in Table 1.

Food codes found in the MPED 2.0 that had modifications made to them for 2005-06 and/or 2007-08 (e.g., different type of fats and milk) also may be included in the Addendum.

The Nutrient Data Laboratory of the Agricultural Research Service provided food group and subgroup equivalents for use in the Addendum for 70 fast food restaurant items and foods with proprietary formulas, such as ready-to-eat cereals and snack-type energy bars. Table 2 shows examples of some of these 70 formulated foods.

3. Foods and variables included in Addendum

The MPED includes cup or ounce equivalents per 100 grams of food for each USDA food group and subgroup, grams of discretionary solid fats and oils, teaspoons of added sugars, alcoholic beverages, as well as whole fruit and fruit juice equivalents, as listed in Table 3. Variables used are those from ARS' MPED. Units of measure are those used in the USDA Food Patterns.

4. Conclusions

The SuperTracker interactive diet assessment tool contains complete food group equivalent data on commonly eaten foods, greatly enhancing its usability. The majority of the foods in the Addendum were intended for use in the SuperTracker, but have also been used in other CNPP projects more recently.

These interim food group data, the ‘Addendum,’ have proven to be valuable to the SuperTracker and other ongoing CNPP projects, and have been used by other researchers as well. As more SuperTracker users request additional foods to be added to the SuperTracker, MPED equivalents may be calculated for them as is feasible, and equivalents data for these foods may be added to the Addendum as well. The Addendum will be used until the next MPED is released by ARS.

The Addendum, including documentation, is available at:
<http://www.cnpp.usda.gov/OtherProjects.htm>.

Table 1. Examples of the 820 food codes in the addendum

Number of Foods & Category	Examples of Foods Added
84 Dairy Foods	Milk, soy, light, ready-to-drink, not baby's Hot chocolate, Puerto Rican style, made with low fat milk Milk, flavors other than chocolate, reduced fat milk-based Cream substitute, fat free, powder
229 Protein Foods	Ground beef, 95% or more lean, cooked Turkey or chicken breast, low salt, prepackaged or deli, luncheon meat Tilapia, baked or broiled Wrap sandwich filled with chicken strips, cheese, lettuce, and spread Egg, cheese, and sausage on bun
31 Eggs	Egg, white only, cooked, fat added in cooking Egg salad W/ IMITATION MAYONNAISE (a modification)
24 Beans and Peas/Soy	Beans and tomatoes, fat not added in cooking Tofu and vegetables (including dark green vegetables) Peanut butter, reduced sugar
153 Grains	Muffin, chocolate, lowfat Cracker, sandwich-type, peanut butter-filled, reduced-fat Burrito with beef, beans, rice, and cheese Pupusa, bean-filled Pad Thai with seafood Brown rice with beans
18 Fruits	Fruit juice blend, including citrus, 100% juice Blueberries, cooked/canned, in light syrup Apple and grape salad with yogurt and walnuts
161 Vegetables	White potato, stuffed, baked, peel eaten, stuffed with butter/marg. Sweet potato chips Salsa made with fruit
3 Fats & Oils	Garlic sauce Honey mustard dressing, reduced calorie
47 Beverages	Coffee, mocha, made with soy milk Vegetable and fruit juice drink, low cal., with Vitamins C, E, A Rockstar Energy Drink Water, fruit flavored, sweetened, with high fructose corn syrup & low calorie sweetener

Table 2. Examples of the 70 food codes for which ARS calculated MPED values

Number of Foods and Category	Examples of Foods Added
4 Dairy Foods	Fruit and lowfat yogurt parfait
1 Protein Food	Bacon, chicken fillet (breaded, fried), and tomato club sandwich with cheese, lettuce and spread
7 Beans and Peas	Soy chips Zone Perfect Classic Crunch Nutrition Bar Clif Bar
52 Grains	Fiber One Chewy Bar Kellogg's Nutri-Grain Cereal Bar Kashi GOLEAN Chewy Bars Trix, reduced sugar Yogurt Burst Cheerios Fast Food, Pizza Chain, 14" pizza, meat and vegetable topping, regular crust
2 Vegetables	Vegetable chips Vegetable and fruit juice blend, 100% juice, with high Vitamin C plus added Vitamins E and A
4 Candies	Yogurt covered fruit snacks candy, with added Vitamin C Reese's Crispy Crunchy Bar Snickers Marathon Energy Bar

Table 3. Variables in the Addendum to MPED 2.0

Food Code	
Modification Code	
Food code description	
Total grains	
-Whole grains	Ounce equivalent
-Non-whole grains	Ounce equivalent
Total vegetables	
-Dark green vegetables	Cup equivalent
-Orange vegetables	Cup equivalent
-Potatoes	Cup equivalent
-Starchy vegetables	Cup equivalent
-Tomatoes	Cup equivalent
-Other vegetables	Cup equivalent
Total fruit	
-Citrus fruits, melons, berries	Cup equivalent
-Other fruit	Cup equivalent
-Whole fruit	Cup equivalent
-Fruit juice	Cup equivalent
Total dairy	
-Milk	Cup equivalent
-Yogurt	Cup equivalent
-Cheese	Cup equivalent
Total meat, poultry, fish	
-Meat	Ounce
-Organ meats	Ounce
-Franks, sausages, lunchmeats	Ounce
-Poultry	Ounce
-Fish high in omega-3 fatty acids	Ounce
-Fish low in omega-3- fatty acids	Ounce
Egg	Ounce equivalent
Soybean products	Ounce equivalent
Nuts and seeds	Ounce equivalent
Legumes	Cup equivalent
Discretionary fat – oil	Grams
Discretionary solid fat	Grams
Added sugars	Teaspoons
Alcoholic beverages	Drink equivalent

References

- [1] Bowman SA, Friday JE, Moshfegh A. *MyPyramid Equivalents Database, 2.0 for USDA Survey Foods, 2003-2004*. USDA Agricultural Research Service, Food Surveys Research Group Web site. 2008. Available at: <http://www.ars.usda.gov/Services/docs.htm?docid=17563>. Accessed March 1, 2012.
- [2] NHANES 2005-2006 Dietary Files. Public-use data files and documentation. National Center for Health Statistics Web site. Available at: http://www.cdc.gov/nchs/nhanes/nhanes2003-2004/diet03_04.htm. Accessed March 1, 2012.
- [3] NHANES 2007-2008 Dietary Files. Public-use data files and documentation. National Center for Health Statistics Web site. Available at: http://www.cdc.gov/nchs/nhanes/nhanes2003-2004/diet03_04.htm. Accessed March 1, 2012.

- [4] U.S. Department of Agriculture, Agricultural Research Service. *USDA National Nutrient Database for Standard Reference, Release 23*. Nutrient Data Laboratory Home Page. 2010. Available at: <http://www.ars.usda.gov/Services/docs.htm?docid=22115><http://www.ars.usda.gov/ba/bhnrc/ndl>. Accessed March 1, 2012.

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